Addendum 1

GENERAL SAFETY ORDERS COVERING METAL AND NONMETALLIC MINES, MILLS, SMELTERS, TUNNELS, QUARRIES, GRAVEL PITS, ETC.

Kolt Mining Company will comply to the general orders covering mining operation per Utah State Code, per the following applicable paragraphs.

GENERAL REGULATION
FOR ALL OPERATIONS

Section 1. OPERATIONS TO WHICH ORDERS ARE APPLICABLE

Insofar as they may be applicable, these orders shall apply to all prospects, mines, tunnels, pits, banks, quarries and open cut workings, mills, smelters and refineries in thee State of Utah; provided, further, that the rules shall not apply to the operation of hydrocarbon mines.

Section 2. EXCEPTIONS TO ORDERS MAY BE MADE

In cases where, in the opinion of the Industrial Commission the enforcement of any order would not materially increase the safety of employees, and would cause undue hardship on the operator, exceptions may be made at the discretion of said Commission, but such exceptions must be in writing to be effective, and they can be revoked after reasonable notice is given in writing.

Section 3. PLACES OF EMPLOYMENT TO BE SAFE

No imployer shall construct, occupy or maintain any place of employment that is unsafe, or require or knowingly permit any employee to be in any employment or place of employment which is not safe, or fail to provide and use safety devices and safeguards, or fail to obey and follow orders of the Commissions, or to adopt and use methods and processes reasonably adequate to render such employment and place of employment safe. No employer shall fail or neglect to do every thing reasonably necessary to protect the life, health, safety and welfare of his imployees.

Section 4. MISCONDUCT OF EMPLOYEES

No employee shall remove, displace, damage, destroy or carry away any safety device or safeguard provided for use in any employment or place of employment, or interfere in any way with the use thereof by any other person, or interfere with the use of any method or process adopted for the protection of employees. No employee who shall refuse or neglect to follow and obey reasonable orders that are issued for the protection of the life, health, safety and welfare of employees.

Section 5. EMPLOYEES TO REPORT UNSAFE CONDITIONS--PROCEDURE

(a) All unsafe or unhealthful operations, processes, conditions, equipment, tools, scaffolds, staging, buildings, or any act or condition considered to be unsafe or unhealthful, shall be reported immediately to the foreman or supervisor in charge of the department or operation where the unsafe

or unhealthful condition is believed to exist.

(b) Should the foreman or supervisor fail or be unable or unwilling to take the necessary steps to correct the reported unsafe or unhealthful condition, the matter should then be called to the attention of the safety department or the safety committee, provided there is such a department or committee. If necessary, the matter should be reported to higher officials.

(c) Whenever a complaint concerning an unsafe or unhealthful condition is received by the Industrial Commission, it shall be the policy of the commission to first ascertain if the above mentioned prodedure has been followed, If not, the Commission, at its discretion, shall either investigate the reported condition or call it to the attention of either the company safety department or the company management, whichever is deemed proper.

(d) Names of persons making complaints or requesting investigation will be withheld if so requested. Anonymous complaints will not be recognixed by the Commission.

Section 6. DANGEROUS CONDITIONS TO BE REPORTED

Should there an unusual occurrence or change of conditions such as the apperance of toxic fume or gas, equipment failure, explosion, fire, etc., that has caused illness or injury or that might materially affect the safety or health of the employees, management shall notify the Industrial Commission or one of its inspectors at once.

Section 7. RECORDS OF INJURIES TO WORKMEN--REPORTS

(a) An accurate record shall be kept of all accidents involving an injury to an employee while on duty, whether or not time is lost.

(b) A report of any on-the-job injury resulting in disability or compensable lost time shall be submitted to the Industrial Commission within seven days on a "First Report of Injury" form.

Section 8. FATALITIES MUST BE REPORTED--PERTINENT EVIDENCE TO BE PRESERVED

(a) Fatal accidents must be reported immediately to the Industrial Commisssion or one of its representatives.

(b) Tools, equipment, material or other evidence that might pertain to the cause of a fatal accident shall not be removed or destroyed until so authorized by the Industrial Commission or one of its inspectors.

Section 9. NOTICE OF INTENTION TO OPERATE OR TO SUSPEND OPERATIONS

(a) Any person, firm or corporation intending to engage in any type of operation subject to the provisions of these safety orders shall give to the Industrial Commission by letter the name and location of the property, the nature and scope of the operation, and the name and address of the official in charge.

(b) Should any operation or facility subject to the provisions of these orders be suspended for six months or more, the Commission shall be so informed. The commission shall also be notified of intent to resume such operation.

Section 10. SUPERVISORY PERSONNEL AND DUTIES

(a) Management shall inspect or designate a competent person or persons to inspect frequently for unsafe conditions and practice, defective equipment and materials, and, where such conditions are found, to take appropreate action immediately.

(b) Supervisory personnel shall enforce safety regulations and issue such orders as may be necessary to safeguard the health and lives of employees. They shall warn all employees of any dangerous condition and permit no one to work in an unsafe place, except for the purpose of making it safe.

Section 11. FIRST AID TRAINING AND SUPPLIES

(a) Production and maintenance supervisors shall complete a U.S. Burequ of Mines First Aid Course or the equivalent. In underground mines, electicians, cage riders and skip tenders should also receive first aid training.

(b) Every operation under the provisions of these orders shall have an adequate supply of first aid equipment which shall be readily accessible and conveniently located. In the case of underground mines, such supplies shall be located both on the surface and underground. The first aid supplies shall be encased in suitable sanitary receptacles that are reasonably dust tight and moistureproof. In addition to the material in the cases, splints, blankets and properly constructed stretchers in good condition shall be provided.

Section 12. VISITORS MUST BE ACCOMPANIED

No unauthorized person shall be allowed in any operation covered by these orders. Visitors shall be accompanied by an authorized person familiar with the operation.

Section 13. INTOXICATION IN OR ABOUT OPERATIONS

No intoxicated person shall be allowed to go into or loiter around any operation where workmen are employed, nor shall anyone carry intoxicating liquor into same.

Section 14. NON-ENGLISH SPEAKING EMPLOYEES

Employees who do not understand or speak the English language shall not be assigned to any duty or place where the lack or partial lack of understanding or speaking English might adversely affect their safety or that of other employees.

Section 15. MISCELLANEOUS SAFETY RULES

(a) New employees shall be instructed in safe working procedures and company safety policy.

(b) Warning signs shall be posted in places deemed to be hazardous.

(c) Walks, stairways and runways shall, as far as practical, be kept clear of snow and ice. Slippery places should be sanded or blocked off.

(d) Roads, paths, walkways and manways shall be kept free of obstructions over which persons may stumble. Material shall be stored or piled with ample clearance.

(e) Before old timber or lumber is handled, protruding nails and wire shall be pulled out or safely bent over.

(f) Adequate illumination shall be provided where needed.

Section 16. GUARDING MACHINERY

(a) All moving parts of machinery where workmen may be exposed shall be adequately guarded. Guards should conform to the standards set forth in the American Standards Association Code

(b) A guard or safety device removed from any machine shall be replaced before the machine is returned to productive operation.

Section 17 STAIRWAYS

(a) Every flight of stairs have 4 or more risers shall be quipped with a stair railing or handrail, the vertical height of which shall not be less than 33 inches nor more than 39 inches from the tread at the face of the riser to the top surface of the rail. Where the stairway is not built next to a wall or partition, rails shall be placed on both sides. If the stairway is closed on both sides, at least one handrail shall be provided. If the width is greater than 4 feet, rails shall be provided on both sides.

(b) Stairways constructed after the effective date of these orders shall not exceed 50 from the horizontal. Steps shall have a maximum rise of 8 inches and a minimum tread of 7 inches.

Section 18 PLATFORMS AND RUNWAYS

(a) After the effective date of these orders, all elevated walks, runways or platforms, except on loading or unloading sides of platforms, if 4 or more feet from the floor level, shall be provided with a substantial 2-bar railing not less than 3 1/2 feet high. If the height exceeds 6 feet avobe floor level, a substantial toeboard, 3 1/2 inches high and no more than 1/2-inch above the platform shall be provided to prevent material from rolling or falling off.

(b) Wherever permanent elevated platforms are in regular use, they shall

be equipped with a permanent starway or ladder.

Section 19 BOILERS AND PRESSURE VESSELS

All boilers and pressure vessels shall be constructed and installed in accordance with the standards and specifiations given in the latest edition of the A.S.M.E. Code.

Section 20 WORKING ATMOSPHERE--THRESHOLD LIMIT VALUES OR MAXIMAL ACCEPTABLE CONCENTRATIONS

(a) Wherever drilling or other operations cause excessive quantities of dust in the working atmosphere, effective dust allaying or collecting facilities shall be provided that will keep the dust content at or below the accepted T.L.V. or M.A.C.

(b) The treshold limit values or maximal acceptable concentrations as given in the latest report of the American Conference of Governmental Industrial Hygienists or some other nationally recognized authority will be used as a guide in establishing acceptable limits or concentations.

Section 21 EQUIPMENT FOR PERSONAL PROTECTION

(a) Where eye hazards such as flying objects or particles, dust, fume, mist or inuurous light ray are inherent in the work invironment, workmen shall be provided with and wear eye protection.

(b) When a workman is exposed to toxic or irritating dust, gas or fume that cannot be controlled by practical means, he shall be provided with and wear U.S. Bureau of Mines approved respiratory equipment.

(c) When a workman is exposed to molten materials, corrosive or toxic chemicals, he shall be provided with and wear suitable protective equipment.

(d) Workmen exposed to the hazard of falling shall be provided with and use safety belts and life lines.

(e) Where provided, employees shall use such quipment as directed and help maintain it in good condition.

(f) Head and Foot protection should be required as a condition of employment where their use is advisable.

Section 22 STORAGE OF CALCIUM CARBIDE

Calcium carbide shall be stored only on the surface in waterproof, dry and well ventilated buildings, and shall be contained in the original metal packages. Every precaution shall be taken to prevent water from coming in contact with carbide in storage.

Section 23 WELDING AND CUTTING OPERATIONS

(a) Acetylene generators, welding and cutting torches, regulating reducing valves, pressure gauges, hose and couplings shall be of a type approved by the Underwriters Laboratories of Chicago or Factory Mutual Laboatories of Boston. This equipment shall be inspected regularly and maintained in good condition.

(b) Acetylene generators shall be installed and housed in accordance with the most recent requirements of the National Board of Fire Underwriters.

(c) Acetylene cylinders should be stored in a well ventilated location, and away from open flames, heating devices and other sources of heat. All cylinders shall be placed upright and securely fastened.

(d) Operators of electic or oxyacetylene welding and cutting equipment shall take necessary precautions to prevent fires. Extinguishers, water hoses or buckets of sand shall be readily available.

Section 24 STORING FLAMMABLE MATERIALS--OIL HOUSES--TANKS

(a) The building or room in which oil, grease and flammable solvents are stored shall be of fire resistant construction and well ventilated.

(b) Oily rags, oily waste and waste paper shall be kept in closed metal containers until removed for disposal.

(c) Smoking shall be forbidden in or around oil houses or other places where such practice might cause a fire.

(d) Larger quantities of oils and solvents shall be stored in properly identified tanks or containers, with vents and taps properly protected, in places a reasonable distance from any other building, and 100 feet from any mine opening, and at least 200 feet from any explosives magazine; provided, however, that such flammable materials, if stored in tanks provided with proper vents containing flash-back arrestors, and buried at least 3 feet below the surface of the ground, shall then be at least 50 feet from any mine opening. No tank shall be installed from which liquid fuel is to be conducted by gravity to the point of combustion unless there be installed between the tank and the point of combustion a conspicuous, simple and reliable cutoff valve which can be quickly and conveniently reached.

(e) Provisions shall be made to prevent flammable liquids which may accidentally drain from storage from flowing toward buildings, mine openings, etc.

Section 25 TANKS, CARS, STORAGE VESSELS--GAS, WATER, AND SEWER MAINS

No one shall be permitted to enter any tank, tank car, tank truck, storage vessel, gas, water, or sewer line where explosive or toxic liquids or gasses may exist, or where there may be oxygen deficiency, without first testing the air. When work must be conducted in these areas, approved type breathing apparatus shall be readily available, and a man or men trained in the use of rescue equipment shall be in a standby position.

Section 26 BINS, CHUTES, DRAW HOLES--STORED MATERIAL--GRIZZLIES

(a) Employees shall be furnished with and required to use approved type safety belts and safety ropes before entering any bin, chute or storage place containing material that might cave or run. Cleaning and barring down in such places shall be started from the top. No employee shall be permitted to work at any time where there is danger of being covered with caving material.

(b) Employees shall not be permitted to work on top of material stored or piled above chutes, draw holes or conveyor systems while material is being withdrawn.

(c) Chutes, bins, drawholes and similar openings shall be equipped with grizzlies or other safety devices that will prevent employees from falling into the openings.

Section 27 CABLES, ROPES, CHAINS, CHOKERS, SLINGS, HOOKS, ETC.

Cables, ropes, chains, chokers, slings, hooks and similar lifting equipment shall be regularly inspected. If found defective, they shall be taken out of service immediately.

REGULATIONS ON EXPLOSIVES--USE, STORAGE, ETC.

Section 28 SURFACE MAGAZINES

(a) After the effective date of these orders, surface magazines for storing and distributing explosives in amounts exceeding 150 pounds shall be:

1. Constructed of incombustible material or covered with fire resistant material.

2. Theft, bullet and water resistant.

3. Equipped with no openings except for entrance and ventilation.

4. Provided with doors constructed of 3/8-inch steel plate lined with a 2-inch thickness of wood, or the equivalent, with hinges and hasps attached inside of doors. Locks shall be equivalent to the strength of a 5-tumbler jar proof lock.

5. Provided with offset type ventilators, effectively screened.

6. Provided with floors made of wood or other nonsparking material and with no metal exposed inside the magazine.

7. When illuminated electically, provided with explosion-proof light bulbs and fixtures installed in conformance with the National Electrical Code.

(b) Explosives in amounts of 150 pounds or less shall be stored in accordance with the preceding standards, or in separate locked box type magazines, which shall be.

1. Constructed strongly of 2-inch hardwood or the equivalent, with no metal exposed inside.

2. Anchored securely when located outside a building.

Section 29 LOCATION OF SURFACE MAGAZINES

Surface magazines constructed after the effective date of these orders shall, unless otherwise authorized by the Industrial Commission, be located at least 200 feet from any inhabited building, mine opening, railway or public road. Magazines containing more than 500 pounds of explosives shall be located in accordance with the distances recommended in the "American Table of Distances". Where compliance with these provisions is impractical, the magazine shall be effectively barricaded.

Section 30 SURFACE STORAGE OF DETONATORS

(a) Detonators shall be stored separately from explosives. A box type magazine is permitted for storing 5,000 detonators or less. More than 5,000 shall be stored in an approved building type or hillside type magazine.

(b) Detonator magazines containing more than 100 detonators shall not be located less than 50 feet from an explosives magazine; magazines containing less than 100 may be located not less than 25 feet from a box type magazine containing less than 150 pounds of explosives.

Section 31 PRECAUTIONS IN AND AROUND MAGAZINES

(a) Explosives shall not be stored in a building containing highly flammable materials such as oil, grease, gasoline and waste paper, nor within 20 feet of a stove, furnace, open fire or flame,

(b) No smoking, matches, open light or flame of any kind shall be permitted in or around a magazine, at an explosives distributing station, or while handling powder. Were electric lights are not provided in a magazine, only permissible type lights may be used.

(c) The area around magazines shall be kept free of rubbish, dry grass, and other combustible materials,

(d) Surface magazines shall be plainly identified by signs posted near but not on the surface walls or doors of the magazine.

(e) Surface magazines shall be kept securely locked at all times when not in use.

(f) No person shall be allowed to loiter around magazines.

Section 32 STORING EXPLOSIVES UNDERGROUND

(a) No more than 48 hours supply of explosives shall be stored underground in an active mine without first obtaining permission from the Industrial

Commission.

(b) Underground magazines shall be so located that an accidental explosion of the magazine would not prevent the escape of the miners.

(c) All explosives and detonators within a mine shall be kept in the original case or suitable insulated containers, and shall be removed only as required for immediate use. Explosives shall be kept a safe distance from roadways, track and electric conductors.

Section 33 USING EXPLOSIVES

(a) Only competent and experienced persons authorized by the supervisor in charge shall be permitted to handle explosives and to do blasting.

(b) Only authorized personnel shall enter underground magazines.

(c) It shall be the duty and responsibility of the person authorized to do the blasting to sound warnings and effectively guard the approaches to the area where the charge is to be fired.

(d) When supplies of explosives or fuse are removed from a magazine, the earliest dated should be taken first. Packages of eplosives shall be removed a safe distance from the magazine before being opened. No package shall be opened with any metallic instrument other than an approved nonsparking type.

(e) Only wooden or other nonconducting tamping bars shall be used for charging and tamping explosives in boreholes.

(f) Detonators shall be removed from the original containers only as they are needed for capping fuses.

(g) All unused caps, capped fuse and electric detonators shall be returned to the magazine at the end of the shift.

Section 34 DISPOSAL OF DETERIORATED EXPLOSIVES AND DETONATORS

Explosives, detonators or fuses that have been damaged or have deteriorated shall be destroyed. When a considerable quantity of explosives or detonators are to be destroyed, it shall be done in accordance with the recommendations of the manufacturer.

Section 35 FUSE BLASTING PRECAUTIONS

(a) At least one inch shall be cut from the end of the coil before attaching the cap with a crimper. The practice of crimping fuse with a knife or teeth is forbidden.

(b) No fuse spitter or ignition device shall burn longer than one-half the time required for the shortest fuse in the round to burn.

(c) When over 10 holes are blasted with fuse and caps, igniter cord and connectors shall be used.

Section 36 ELECTRICAL BLASTING

(a) Blasting units shall provide at least 5 amperes of current. The number of shots to be fired shall not exceed the rated cappacity of the firing unit.

(b) Blasting machines or battery operated devices used to fire shots shall be provided with a detachable handle, connecting plug, key, or other acceptable means to prevent inadvertent firing, Such devices shall be in the possession of the person designated to fire shotsd.

(c) When large blasts are detonated electrically, they shall be fired from a power circuit of ample capacity. At least one, preferably two or more safety switches shall be placed in power circuits used for shot firing. Double-pole, double-throw switches are recommended because they facilitate short-circuiting while shots are being prepared. The blasting switch (double-pole, double throw safety switch) at the firing station shall be attached to the main switch by means of a detachable jumper. When the jumper cable is detached from the main switch, at least 5-foot gap shall be provided between the power source and the leading wires as protection against lightning, static charges, or voltage surges that may travel along the power lines. (The main switch as used in these rules means the switch attached to the power source, which is equipped with the proper fuses or equivalent overload protection.)

(d) The switches in the firing circuit shall be of a type that can be locked, and the keys to the locks shall be entrusted only to the person designated to fire shots. A safe sequence shall be established for closing the switches in the firing circuit while retreating to the firing station.

(e) Short wave radio equipment should not be used in the immediate vicinity of electrical blasting operations.

(f) Blasting lines shall be protected from possible stray currents or other sources of electricity. All loading shall be stopped when the presence of static electricity or stray currents is detected, until the condition is remedied or no longer exists.

(g) Underground blasting lines shall be provided with plug-in type crossover safety connectors for each heading.

(h) The ends of blasting lines shall be kept short-circuited until the shot is ready for blasting. The leg wires of the detonators shall be kept short-circuited until ready to be connected for blasting.

(i) Only the person designated to fire the shots shall connect the leads to the blasting unit.

Section 37 MISSED HOLES--MISFIRES

(a) Where multiple blasting shots are fired by fuse primers, it shall be the responsibility of the person doing the blasting to count the shots. WHen it is not certain that all charges have exploded, no one shall be permitted to enter the blasting area until 45 minutes have elapsed, and then only a minimum

number of personnel should be allowed in the area.

(b) When blasting electrically and a misfire occurs, no person shall be permitted to enter the area until the blasting lines have been disconnected from the sources fo electrical energy and shorted (shunted), and a 5 minute interval has elapsed.

(c) When a misfire occurs, if possible, a new primer shall be placed on top of the charge and blasted. When this is not possible, explosives may be washed out with water, using a plastic or other nonmetallic nozzle, or a new hole may be drilled not less than 2 feet from the missed hole and pointed at an angle to eliminate any danger of drilling into the missed hole. The new hole shall then be charged and fired.

Section 38 DRILLING BELOW MUCK PILE

Miners shall not be permitted to drill holes that will extend below the level of the top of any muck pile lying against the face being drilled.

Section 39 SIMULTANEOUS LOADING AND DRILLING

The loading or placing of explosives in drill holes within 10 feet of machine drilling operations is prohibited. Simultaneous loading and drilling is prohibited in the working face of any tunnel, shaft or raise, regardless of size.

Section 40 BLASTING DURING SHIFT

Blasting underground during the shift should be avoided. Where blasting is done before the end of the shift, working places shall be cleared of smoke and dust before men return.

Section 41 APPROACH OF HEADINGS

When two headings approach each other and are within 20 feet of connectng, the blasting time shall be coordinated. The headings shall be mucked clean and carefully examined for missed holes after each round and before drilling is begun in either face.

Section 42 TRANSPORTING EXPLOSIVES UNDERGROUND

(a) Explosives shall not be carried on an electric locomotive.

(b) No one except the train crew shall be allowed to ride on a train carrying explosives.

(c) If explosives and detonators are hauled in the same car or container, they shall be separated by at least 4 inches of firmly fastened hardwood partition or the equivalent.

AMMONIUM NITRATE--AMMONIUM NITRATE/FUEL OIL MIXTURES

Section 43 AMMONIUM NITRATE--TRANSPORTATION AND STORAGE

(a) Unsensitized ammonium nitrate shall be transported in accordance with State and Federal regulations.

(b) Surface storage of ammonium nitrate shall comply with the provisions of the most recent Manufacturing Chemists Association Manual A-10.

Section 44 BLASTING AGENTS

(a) BLASTING AGENT shall mean any material or mixture consisting of a carbonaceous material and oxidizer, intended for blasting, not otherwise classified as an explosive, and in which none of the ingredients are classified as an explosive, provided that the finished product cannot be detonated by means of a No. 8 test blasting cap when undefined.

(b) Ammonium nitrate sensitized with fuel oil or other carbonaceous material is classed as a blasting agent.

Section 45 MIXING BLASTING AGENTS--RESTRICTIONS--COMPOSITION

(a) Mixing blasting agents shall not be permitted underground in mining operations.

(b) Mixing blasting agents while in transit on public roads or thoroughfares is prohibited.

(c) When blasting agents are to be used underground, positive mechanical mixing or other method approved by the Industrial Commission shall be utilized to insure a homogenous mixture.

(d) The proportion of carbonaceous material and oxydizer in a blasting agent should be such that there is a proper oxygen balance. Field mixing of blasting agents of unusual composition should be done only by qualified persons under controlled conditions.

(e) No fuels more volatile than No. 2 diesel fuel shall be used in AN/FO mixtures. Crude oil and crankcase oil shall not be used. The fuel oil content of AN/FO for underground use should range between 5.5% and 6.5%

SECTION 46 MIXING PLANTS-STARAGE WAREHOUSES OR MAGAZINES

(a) Mixing plants and storage warehouses or magazines shall be isolated from inhibited buildings, railroads and highways according to the American Table of Distances for Explosives.

(b) Floors shall be of concrete or other nonporous and noncombustible material.

(c) Buildings shall be of fire resistant construction such as brick,

block, steel, sheet metal on wood studdings, etc.

(d) Floor drains shall be of open construction so that molten material cannot be confined in case of fire.

(e) All electric switches, controls, motors and lights located in the blasting agent mixing or storage area shall conform to the requirements of class II, Division 2 of the most recent edition of the National Electrical Code; otherwise, they shall be outside. The frame of the mixer and all other equipment that may be used shall be electrically bonded together and provided with a continuous electrical path to ground.

(f) The design of the mixer should minimize the possibility of frictional heating, compacting, and especially confinement. Bearings and gears shall be protected against the accumulation of product dust, and all surfaces shall be accessible for cleaning.

(g) Floors and equipment in mixing plants shall be washed down, if practical, or otherwise cleaned as needed to prevent excessive accumulation of the plant product or any of its ingredients. Storage room and magazine floors shall be kept free of accumulations of any such material.

(h) All discarded ammonium nitrate or AN/FO bags and other trash shall be disposed of daily in a safe manner.

(i) Open flames, matches or smoking shall not be permitted in the mixing plant or storage area. Provided however, that when welding or cutting with an actylene or eletric torch is necessary, the immediate area where the work is to be done shall be throughly cleared and cleaned before welding or cutting is started. Special precautions shall be taken to keep hot sparks, hot metal or slag from contacting the blasting agent or any ingredient thereof.

(j) In the event of fire in the mixing plant or storage facilities, the areas should be evacuated and no attempt made to fight the fire, unless sufficient water can be applied immediately to control it in its incipient stage. (The use of copious quantities of water is the most effective method of controlling such fires in their early stages. Commercial type fire extinguishers are ineffective.)

(k) When ammonium nitrate is stored with AN/FO, or if either is stored with explosives, the total weight of the products so stored shall be considered as an explosive for compliance with the American Tabel of Distances. These porducts, when stored together, shall be seperated by at least 24 inches.

(l) Neither ammonium nitrate nor blasting agents shall be stored with flammable substances, acids, chlorates, perchlorates, nitrites, permanganates, sulphur or finely divided metals.

(m) Blasting agents packaged for sale shall be clearly labeled and show the mixing date.

Section 47 LOADING EQUIPMENT

(a) Where electric primers are used, all pneumatic and air-pressure equipment used for loading blasting agents shall be grounded by means of a

separate and satisfactory static dissipating ground.

(b) Where electric primers are used, loading tubes shall be of high resistance tubng capable of dissipating static and incapable of transmitting a stray current. Metal or low resistance loading tubes are not approved.

(c) Where electric primers are used, all loading shall be stopped when the presence of static electricity or stray currents is detected until the condition is remedied or no longer exists.

(d) Where grounding is required, the blasting agent hopper, pickup apparatus, fittings, discharge hose, and loading tube shall form a continuous electrically conductive path to a ground. Water lines, air lines, fan lines, rails or the permanent grounding system shall not be used as a ground.

(e) Loading equipment mounted on a car and rails must be thoroughly insulated from the car and rails.

(f) When capped fuse is used, the primer shall be placed at or near the bottom of the hole before the blasting agent is charged.

(g) Capped fuse should only be handled by a person who has not previously been operating jet loading devices, unless that person has taken care to ground himself by touching the wall rock or a metal conductor, such as an air or water line or rail.

(h) All loading equipment shall be removed from the blasting area before the loaded holes are tied in for blasting.

Section 48 ADDITIONAL REGULATIONS PERTAINING TO BLASTING AGENTS

All regulations pertaining to the storage, trasportation and use of explosives, both surface and underground, shall also apply to blasting agents if not in conflict. (See Sections 28 through 38.)

ELECTRICAL POWER--SURFACE AND UNDERGROUND

Section 49 SURFACE TRANSMISSION LINES

(a) Overhead high-potential power lines shall be placed at least 18 feet above the ground and 20 feet above driveways and haulageways, shall be installed on insulators, and shall be supported and guarded to prevent contact with other circuits.

(b) Surface transmission lines, including trolley circuits, shall be protected against short circuits and lightning. Each exposed power circuit that leads underground shall be equipped with lightning arrestors of approved type at the point where the circuit enters a mine.

Section 50 DIAGRAM--MAJOR CIRCUITS

A diagram of major electrical circuits feeding surface and underground

facilities shall be readily available on the surface at each mine, for information purposes in case of an emergancy situation. The diagram shall show the location of all substations, trasformer stations motor generators, rectifiers, battery charging stations, pumping stations circuit breakers, switchboards and main switches.

Section 51 SURFACE AND UNDERGROUND TRANSFORMER STATIONS

(a) Trasformers shall be enclosed in a trasformer house or surrounded by a suitable fence at least 6 feet high. If the enclosure or fence is of metal, it shall be grounded effectively. The door or gate to the enclosure shall be kept locked except when authorized persons are present.

(b) Transformers containing flammable oil and installed where they present a fire hazard shall be provided with means to drain or to confine the oil in event of rupture of the transformer casing.

(c) All transformers ordered after the effective date of these orders for use underground shall be air cooled or filled with nonflammable liquid or inert gas.

(d) Approved "DANGER" signs shall be posted conspicuously at all transformer stations on the surface and underground.

(e) All transformer stations on the surface and underground shall be kept free of nonessential combustible materials and refuse.

(f) Suitable insulating poles, hooks or other gear shall be provided and maintained in good condition for the removal and replacement of fuses and the operation of disconnecting switches.

Section 52 POWER CIRCUITS

(a) All power wires and cables shall have adequate current carrying capacity, shall be protected from mechanical injury, and with the exception of trailing cables and power cables connected to junction boxes, shall be installed in a permanent manner.

(b) Wires and cables not incased in armor shall be supported by properly installed insulators and shall not touch combustible materials; provided, however, that this does not apply to ground wires, grounded power conductors, and trailing cables.

((c) Splices in power cables shall be made in accordance with the following:

1. Mechanically strong, with adequate electrical conductivity.

2. Effectively insulated and sealed so as to exclude moisture,

3. If the cable has metallic armor, mechanical protection and electrical conductivity equivalent to that of the original armor shall be provided.

(d) All power wires and cables shall be insulated adequately where they

pass into or out of electical compartments, where they pass through doors, and where they cross other power wires and cables.

(e) Where track is used as a power conductor:

1. Both rails of mainline track shall be welded or bonded at every joint. At least one rail on secondary track haulage roads shall be welded or bonded at every joint, and cross bonds shall be installed at intervals of not more than 200 feet; provided, however, that rail joints in such secondary haulage roads need not be bonded where a feeder of adequate size parallels the track and is electrically connected thereto at intervals of not more than 200 feet by cross bonds.

(f) All power circuits and electrical equipment shall be de-energized before work is done on them; provided, however, that employees may, where necessary, repair energized trolley wires if they wear insulated shoes or work off an insulated platform, and wear lineman's gloves.

(g) Trolley wires and trolley feeder wires shall be kept taut and not permitted to touch any combustible material.

(h) Trolley wires shall be aligned properly and installed on insulated hangers, and they should be at least 6 inches outside the rail. Trolley wire hangers shall be so spaced that the wire may become detached from any one hanger without creating a hazardous condition.

(i) Trolley wires and trolley feeder wires shall be providwd with coutout switches near the beginning of all branch lines and at reasonable intervals where needed.

(j) All underground high potential transmission cables shall be:

1. Installed only in regularly inspected passageways.

2. Covered, buried or placed so as to afford reasonable protection against damage by wrecked trips, trolley equipment, roof falls and blasts.

3. Guarded where men regularly work or pass under them unless they are 78 inches or more above the floor or rail.

4. Securely anchored, properly insulated, and guarded at ends.

5. Covered, insulated, or place to prevent contact with trolley and other low voltage circuits.

Section 53 SUBSTATIONS--BATTERY CHARGING STATIONS--PUMP STATIONS--COMPRESSOR STATIONS

(a) All surface and underground substations, battery charging stations, pump stations and compressor stations shall be kept free of refuse and nonessential combustible material.

(b) Smoking and open lights are prohibited in battery charging stations.

(c) All housings enclosing oil switchgear shall be effectively ventilated.

(d) Reverse current protection shall be provided at storage battery charging stations to prevent the storage batteries from energizing the power circuits in the event of power failure.

Section 54 CIRCUIT BREAKERS--SWITCHES--SWITCHBOARDS

(a) Circuit breakers or fuses of the proper type and capacity shall be installed to protect electrical equipment and power circuits against excessive overload. Wire or other conduction material shall not be used as a substitute for fuses. Circuit breakers shall be maintained in good operating condition.

(b) Operating controls, such as switches, starters and switch buttons, shall be so installed that they are readily accessible and can be operated without danger of contact with moving or live parts. On stationary equipment in the "off" position to prevent accidental application of power.

(c) Disconnecting switches shall be installed in all main power circuits within 500 feet of the place where circuits enter a mine.

(d) Dry wooden platforms,insulating mats, or other electrically nonconductive material shall be placed at each switchboard, power control switch and fixed machine where shock hazards exist.

(e) Resistors or rheastats shall be installed so as not to create a fire hazard, and shall be guarded adequately against personal contact.

(f) When not needed, underground power circuits shall be de-energized on idle days and shifts.

(g) Electrical parts, such as switches, circuit breakers, rheostats, relays and fuses, shall be mounted on nonconductive, incombustible bases.

(h) Switchboards shall be located a safe distance from passageways or lanes of travel. Only authorized persons shall have access to the back side of switchboards.

(i) Both sides of switchboards shall be well lighted.

(j) Combustible material shall not be stored in rooms housing switchboards.

(k) "DANGER" signs shall be posted conspicuously at all high potential switchboard installations.

Section 55 GROUNDING

(a) All metallic sheaths, armors and conduits enclosing power conductors shall be electrically continuous throughout and grounded effectively.

(b) Metallic frames, casings and other enclosures of electrical of electrical equipment that can become "alive" through failure of insulation or by contact with energized parts shall be grounded efectively, or equivalent protection shall be provided.

Section 56 SAFETY LOCKOUT AND TAGGING

Where there is danger of machinery being started or electrical circuits being energized while repairs or maintenance work is being done,the control switch shall be locked open and the workman in charge shall keep the key until the job is completed. If lock cannot be applied, tags made of nonconducting material and plainly lettered--"MEN WORKING"--DO NOT CLOSE THIS SWITCH"-- shall be used, or other approved lockout procedures shall be put into effect.

Section 57 TELEPHONE LINES--SIGNAL WIRES

(a) All telephone wires shall be shielded from stray currents and shall be provided with approved type telephone protectors at each connection to a telephone set.

(b) Lightning arrestors shall be provided for each circuit entering a building.

(c) Bare signal wires that are readily accessible to personal contact shall not carry more than 24 volts.

Section 58 SURFACE AND UNDERGROUND ILLUMINATION

(a) Lighting shall be povided at all shaft stations, permanent hoist, pump and other major intallations during the hours men are on shift.

(b) Electric light wires shall be supported by suitable insulators, or installed in conduit, and not permitted to touch combustible material.

(c) Electric lights shall be installed so they cannot come in contact with combustible materials.

(d) Only weatherproof lamp sockets having no exposed metal parts shall be used for unenclosed applications.

Section 59 CONDITIONS NOT COVERED HEREIN

In the absence of specific rules or regulations, the current editions of the National Electrical Safety Code or the American Standard Association Inc. publication entitled "Safety Rules for Installing and Using Electrical Equipment in and about Metal and Nonmetallic Mines" shall be used as a guide.

SMELTER, REFINERIES, MILLS CONCENTRATORS AND SIMILAR OPERATION

Section 106 MISCELLANEOUS SAFETY RULES

(a) No employee shall be required to work in or around hot furnaces or receptacles containing molten metals unless adequate safety and health precautions have been taken.

(b) Ice, snow, water and wet material shall be removed from pots, kettles and ladles before being filled with molten metal, matte, slag, etc.

(c) Containers used for transporting or storing acid, alkali and other chemicals shall be properly labeled and covered.

(d) Equipment used for trasferring substances which may cause dermatitis, chemical burns, or other reactions shall be cleaned before repairs are started.

Section 107 BAGHOUSES--FLUES--FURNACES--PRECAUTIONS TO BE TAKEN

(a) Before employees are required to work in a baghouse or flue where there is a possibility of toxic gas or oxygen deficiency, the foreman shall see that the air is tested. If toxic gas is present or there is oxygen deficiency, U.S. Bureau of Mines approved breathing apparatus in good condition shall be used.

(b) No one shall be allowed to enter a baghouse, flue or chamber while it is under pressure, unless emergency rescue equipment is available and someone who has been trained in its use is present at the point of entrance.

(c) A positive lockout or tagging procedure shall be followed to prevent anyone from being accidentally trapped inside a baghouse or flue when the doors are closed.

(d) Protective measures shall be taken before men walk in or on hot flue dust.

(e) When repairs are to be made on top of flues or furnaces, employees shall be provided with and required to use walkways, plaking or staging.

(f) No one shall enter any flue, dust chamber, baghouse or furnace unless directed by the supervisor in charge.

Section 108 UNLOADING OR TRANSFERRING ACID OR CORROSIVE LIQUIDS

(a) All employees transporting, unloading, transferrng or otherwise handling acid or other corrosive liquid shall be properly instructed in safe working procedure and be familiar with applicable company and State safety regulations.

(b) All equipment used for transporting acid and corrosive liquids shall comply with regulations and standards of the Interstate Commerce Commission and the Public Service Commission of Utah.

(c) Emergency showers and eye washing stations shall be provided at each loading or unloading ramp or station. Loading or unloading is prohibited unless the showers and eye washing stations are in good working condition. Employees shall be required to test the emergency showers and eye washing stations before loading or unloading operations are started.

(d) Smoking and the use of open flame lights of any kind is prohibited in

the vicintiy of the loading dome or discharge point.

(e) Employees shall be provided with and required to use proper protective clothing consisting of rubber pants, jackets and hoods. A face shield shall be worn in place of goggles. It shall not be raised or removed until the loading or unloading operations are completed, or the employee is a safe distance from the unit.

(f) Air control and bleed-off valves shall be located a safe distance from the tank, tank truck or tank car. Bleed-off valves shall be located between the tank and the main air control valve. Air pressure shall be released at the bleed-off valve before any of the discharge fittings are disconnected.

(g) The use of air pressure in excess of 30 pounds per square inch for unloading operations is prohibited. If more than 30 pounds of air pressure would be necessary, an acid pump shall be provided.

(h) All fittings shall be inspected for evidence of leaks or other defects before unloading to avoid possible spray when the tank is pressurized. Should leakage occur, the air supply shall be shut off and the pressure bled off before any type of repair is attempted. Should the employee be in doubt as to the procedure to be followed, he should contact his supervisor.

OPEN PIT MINES, QUARRIES, GRAVEL PITS AND SIMILAR OPERATION

Section 109 BANKS

(a) The supervisor in charge, or someone designated by him, shall see that all banks are inspected and made safe before men or equipment are permitted to work under them.

(b) Blanks shall be suitably sloped and trimmed, dependent upon the kind of rock or material, height of banks, and type of equipment being used. When power shovels are used, if practical, the maximum height of banks should not exceed by 10% the upmost reach of the dipper.

(c) When men are working on banks, suitable bank ropes shall be provided. They sahll be safely anchored but not tied to bench towers or other electrical equipment. Safety belts shall also be provided when necessary. Each rope and safety belt shall be inspected by the employee before it is used.

(d) Hard hats shall be worn by all employees working near banks and where there is danger of falling or flying material.

Section 110 MISCELLANEOUS SAFETY RULES

(a) Safe means of access, which employee shall be required to use, shall be provided to all working places. Walkways, trails and roads shall be graded and properly maintained. Guard railings shall be provided where needed; safety ricks or windrows are acceptable for haulage roads.

(d) Warning signs and/or signals shall be used to warn employees of potential dangers, such as blasting, moving equipment, electrical hazards, etc.

(c) Placing clothing, lunch buckets, canteens, etc. on bench towers, switches, utility poles, or other electrical equipment, is prohibited.

Section 111 HEAVY DUTY MOBILE EQUIPMENT OPERATORS--QUALIFICATIONS

It shall be the responsibility of management to see that the operator of any heavy duty equipment such as a locomotive, crane, power shovel, truck, dozer, front end loader, scraper, etc. is qualified physically and properly trained and instructed to operate his machine.

Section 112 HEAVY DUTY MOBILE EQUIPMENT--MAINTENANCE--INSPECTION

(a) No unauthorized person shall be allowed on the operating platform when heavy duty mobile equipment is is operation.

(b) A suitable ladder or steps and handholds shall be provided to afford safe and easy access to the operating platform.

(c) Machine operators shall not converse unnecessarily with anyone while operating equipment.

(d) Adequate illumination shall be provided around drills, shovels,pumps, etc. which are operated in open pits between sunset and sunrise. The booms of shovels and draglines shall be well illuminated during night operations.

(e) Machinery should be shut down before oiling or greasing is done. If this is not practiceal oil and grease fittings shall be so located or extended that the machine can be serviced safely.

(f) Equipment shall be inspected regularly and maintained insafe operating condition.

(g) Guards shall be provided on equipment where necessary.

(h) Unless impractical, shovels and other equipment should be moved well away from banks before repairs are made.

(i) Equipment elevated for repairs shall be adequately supported.

(j) Wherever internal combustion engines are used, exhaust systems shall be inspected frequently and needed repairs made promptly to protect operators from excessive concentration of carbon monoxide, oxides of nitrogen and other gases.

Section 113 POWER SHOVELS

(a) Shovel operators shall be protected by a cab, screen or other suitable means, in the event a cable should break or material fall from the dipper or bank.

(b) Whenever practical, shovels should be operated with the control side away from the bank.

(c) All persons shall keep a safe distance from the swing of the shovel.

(d) Dippers shall be swung away from the bank and left on the ground when the machine is not in operation.

(e) The master clutch on all shovels and, in addition, the master switch on electric shovels, shall be diengaged before the operator leaves his cab.

(f) Electric shovels: All wiring and electrical equipment shall be installed and maintained according to the applicable rules of the Nations Electrical Safety Code. Only qualified personnel shall install or repair electrical equipment.

(g) Insulated cable tongs or hooks shall be used in handling energized portable cables or ropes attached thereto.

Section 114 RUBBER TIRED FRONT END LOADERS

(a) Front end loaders should not be operated in such a manner that the center of gravity is shifted to the extent that a tipping hazard is created. (Traveling with a loaded bucket in a high position can cause excessive wabbling.)

(b) When descending steep grades or traveling on highways, loaders shall be operated in the direction that affords the operator the maximum control and visibility.

(c) Proper engine speed is required to maintain steerage control of machines equipped with power or power boost steering. If engine fails, the operator should apply brakes and drop the bucket.

(d) Loader machines should be operated in gear at all times.

Section 115 TRUCKS--HAULAGE AND SERVICE

(a) Brakes, steering gear, tires and operating parts of trucks shall be tested daily, and maintained in safe condition.

(b) Drivers shall not remain in trucks being loaded with a power shovel if the shovel dipper must swing over the cab to load. If the shovel dipper does not pass over the cab. the driver may remain, provided he is adequately protected from the material being loaded.

(c) A completely deflated tire on a truck shall not be reinflated until the truck has been jacked up. the weight relieved, and the lcking ring safely secured. Were practical, the tire should be placed in a cage before being inflated.

(d) Bodies of dump trucks shall be blocked or cribbed when in hoisted position before being inspected, serviced or reparied.

Section 116 CONVEYORS, CABLEWAYS, ETC.--CONSTRUCTION--OPERATION--MAINTENANCE

(a) Suitable overhead protective guards shall be installed to catch falling material that could case injuries where conveyors pass over working areas, roadways or aisles.

(b) Suitable catwalks, platforms or balconies with stairways or fixed ladders shall be provided at all points in conveyor systems requiring lubrication and servicing that are not otherwise readily accessible.

(c) Passageways under conveyors shall be provided with warning telltales if the clearance is less than 7 feet.

(d) All starting and stopping devices shall be clearly marked and readily accessible.

(e) Head and tail pulleys and drives on conveyors shall be adequately guarded.

(f) Unless impractical, conveyors shall not be serviced or repaired while in operation. When a conveyor is stopped for servicing or repairing, the starting device shall be locked out or tagged. Before the conveyor is restarted, a visual inspection shall be made by a responsible person.

(g) No one shall step on or over a moving conveyor. Crossovers shall be provided where necessary.

(h) Riding on conveyours shall be prohibited, other than on authorized man trips approved by the Industrial Commission.

Section 117 CRUSHING, SCREENING AND PROCESSING PLANTS

(a) Machinery, gears, belts, chains, pulleys and exposed shafts shall be equipped with guards where necessary to prevent injury.

(b) Rock crushers shall be effectively screened or guarded to protect employees from flying rock.

(c) Elevated walkways shall be provided with guard railings and toe boards.

(d) Working platforms,access stairways and ramps shall have adequate guards.

(e) Effective dust control measures shall be taken or personal protective equipment used wherever employees are exposed to dust in excessive quantities. (See also Section 20 on Working Atmosphere.)

Section 118 INTRA AND INTER PLANT RAILROAD EQUIPMENT--OPERATION,MAINTENANCE AND INSPECTION

(a) Trackage, signal systems, traffic control systems, power lines, rolling stock, and appurtenances thereto, shall be regualarly inspected and maintained in good condition.

(b) The latest Interstate Commerce Commission rules and regulations pertaining to railroad safety shall be used as a guide, where appplicable, for operating, maintaining and inspecting intra and inter plant railroad equipment, such as the "Laws, Rules and Instructions for Inspection and Testing of Locomotives Other Than Steam." Applicable Federal Safety Appliance Acts and the Power Brake Act shall also be guide texts.